

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: **KURODA, et al.**

#14 / Reg. for reconsideration.
VETANS
12.13.02

Serial No.: **09/520,164**

Group Art Unit: **2834**

Filed: **March 7, 2000**

Examiner: **Pedro J. CUEVAS**

P.T.O. Confirmation No.: **9586**

For: **ENGINE CONTROL SYSTEM FOR HYBRID VEHICLE**

REQUEST FOR RECONSIDERATION UNDER 37 CFR §1.116
- EXPEDITED RESPONSE -
GROUP ART UNIT 2834

BOX AF

Commissioner for Patents
Washington, D.C. 20231

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December 9, 2002

Sir:

In response to the Office Action dated **August 9, 2002**, Applicants respectfully request reconsideration of the prior art rejections discussed below:

Claim 1 stands rejected under 35 USC §103(a) as unpatentable over **Katayose et al.** (previously applied) in view of U.S. Patent 6,307,276 to Bader (hereinafter "**Bader**").

Applicants respectfully traverse this rejection.

As noted in Applicants' previous response, **Katayose et al.** is not directed to an engine control system for a hybrid vehicle, to which the present invention is directed, as recited in claim 1.

The Examiner has admitted that **Katayose et al.** fails to disclose a battery remaining charge computing means for computing battery remaining charge of the electric motor.

However, the Examiner has cited column 1, lines 38-43 **Bader** for teaching the use of a means for obtaining the amount of battery charge for the purpose of providing a method for

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automatically controlling a parallel hybrid drive, in which the power of an internal combustion engine is supplied in three different ways as a function of current driving parameters; in particular the power requirement, the vehicle speed and the battery charge state (column 1, lines 38-43).

Applicants respectfully disagree.

The description in lines 38-43 of column 1 of Bader merely discloses the existence of the German patent document DE 44 22 636 A1. According to this description alone, the specific relationship between an internal combustion engine and an electric motor and a battery charge state is unclear.

In a hybrid vehicle, electric power need be insured only to an amount which is able to start an electric motor at the time of starting and, therefore, the battery remaining charge is kept under observation. A hybrid vehicle is different from an internal combustion engine vehicle in this point. When a conventional battery for an internal combustion engine vehicle is used, only the voltage need be monitored. Battery remaining charge is not important because once the engine is started, the alternator will begin charging the battery. Accordingly, when the above-mentioned conventional battery is used for a hybrid vehicle, a situation can occur in which the electric motor can no longer be started when a reduction in the voltage is detected. Such a situation can be prevented by a battery for a hybrid vehicle by observing the battery remaining charge, as in the present invention.

Thus, there would be no motivation to include a battery remaining charge computing means in the engine control apparatus of Katayose et al. because Katayose et al. does not

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involve control of the interaction between the internal combustion engine and the electric motor of a hybrid vehicle, to which claim 1 of the instant application is directed.

Thus, the 35 USC §103(a) rejection should be withdrawn.

Claims 4 and 5 stand rejected under 35 USC §103(a) as unpatentable over Katayose et al. in view of U.S. Patent 5,846,164 to Harada (hereinafter "Harada").

Applicants respectfully traverse this rejection.

Harada discloses an apparatus for controlling negative pressure for a brake booster in a diesel engine. Column 5, lines 14-19 disclose:

The running condition of the engine 1 is detected by the throttle sensor 25, the acceleration sensor 26A, the complete closure switch 26B, the top dead center position sensor 27, the crank angle sensor 28, the swirl control valve sensor 29, the intake pressure sensor 61, the coolant temperature sensor 62, the pressure sensor 63, and the vehicle speed sensor 64.

The Examiner has admitted that Katayose et al. fails to disclose a coolant temperature detector for detecting a coolant temperature for the engine (claim 4), and an intake air temperature detector for detecting an intake air temperature for the engine (claim 5), but has cited Harada for teaching this feature.

Applicants respectfully disagree. Neither Katayose et al. nor Bader is directed to control of a hybrid vehicle. Furthermore, Bader discloses control of brake force for a vehicle, and is not directed to engine-operation enable/disable determination based on the claimed parameters, as in the present invention. It should also be noted that Bader discloses only an intake air pressure detector, and does not disclose an intake air temperature detector, as recited in claim 5 of the

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instant application.

Thus, the 35 USC §103(a) rejection should be withdrawn.


In view of the aforementioned remarks, claims 1-5 are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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